

CLAIMS

1.- Method (1) for simulating mobility in an urban area characterised in that it comprises the following phases:

- 5 • defining (100) said urban area by means of a plurality of nodes each presenting at least one direction of elementary movement towards at least one adjacent node and a plurality of destination areas each defined by a portion of said urban area;
- 10 • assigning (120) to a plurality of individuals a respective position and a respective condition of mobility;
- assigning (100) to each individual belonging to a first part said individuals one or more destination
- 15 areas;
- assigning (320) to each individual a first direction of movement corresponding to a random elementary direction of movement;
- establishing (330) for each individual belonging to
- 20 the first part of said individuals a second direction of movement, which is determined according to both the distance of its own position from the various destination areas associated with it and the first direction of movement;
- 25 • updating (150) the position of each individual belonging to the first part of individuals according to both its own condition of mobility and said second direction.

- 30 2.- Method according to claim 1 characterised in that it comprises the phase of updating (350) (360) (370), for each individual belonging to the first part of individuals, the condition of movement according to both the distance of its own position from the various
- 35 destination areas associated with it and its own condition of mobility.

3.- Method according to claim 1 characterised in that it comprises the phase of updating (320) the position of each individual belonging to a second part of individuals
5 according to both its own condition of mobility and said first direction.

4.- Method according to claim 3 characterised in that it comprises the phase of updating (350) (360) (370), in a
10 random manner, the condition of mobility of each individual belonging to the second part of individuals.

5.- Method according to claim 4 characterised in that it comprises the phase of determining (350) (360) (370), for
15 each individual belonging to the second part of individuals, a new condition of mobility according to the previous condition of mobility.

6.- Method according to claim 1 characterised in that it comprises the phases of:
20 • assigning (100) to each of said destination areas at least one temporal window of inaccessibility having a predetermined duration;
• updating (150) on said temporal window the position of
25 each individual belonging to the first part of individuals solely according to said first direction corresponding to a random elementary direction.

7.- Method according to claim 6 characterised in that it comprises the phase of:
30 • updating (100) on said temporal window the position of each individual belonging to the first part of individuals in a random manner.

8.- Method according to claim 1 characterised in that it
35 comprises the phases of:

- assigning (100) to each of said destination areas a minimum distance;
- updating (150) the position of each individual belonging to the first part of individuals, moving the latter in the elementary direction corresponding to said first direction, when the distance of its own position with respect to the respective destination area satisfies a predetermined relationship with said minimum distance.

10 9.- Method according to claim 8 characterised in that it comprises the phase of:

- updating (150) the position of each individual belonging to the first part of individuals, moving the latter in the elementary direction corresponding to said first direction, when the distance of its own position with respect to the respective destination area is less than said minimum distance.

20 10.- Method according to claim 1 characterised in that it comprises the phase of defining (100) said urban area by means of at least one means of transport suited for moving said individuals at a first speed of movement through a predetermined sequence of nodes.

25 11. Method according to claim 9 characterised in that said condition of mobility comprises a first condition in which the position, the speed and the direction of movement of said individual is respectively equal to the position, speed and direction of said means of transport,
30 a second condition in which the position of said individual remains unchanged, and a third condition in which said individual moves between two nodes with a second speed of movement.